



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,820	02/12/2001	Bradley Paul Barber	L-122600	8550
46900	7590	03/21/2008	EXAMINER	
MENDELSON & ASSOCIATES, P.C. 1500 JOHN F. KENNEDY BLVD., SUITE 405 PHILADELPHIA, PA 19102			MALSAWMA, LALRINFAMKIM HMAR	
ART UNIT	PAPER NUMBER			
		2892		
MAIL DATE	DELIVERY MODE			
03/21/2008	PAPER			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>		Application No. 09/781,820	Applicant(s) BARBER ET AL.
Examiner Lex Malsawma		Art Unit 2892	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

#### Status

1) Responsive to communication(s) filed on 17 December 2007.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 2-4,6,9,10,19-23 and 25-33 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 22,23 and 28-33 is/are allowed.  
 6) Claim(s) 25 and 27 is/are rejected.  
 7) Claim(s) 2-4,6,9,10,19-21 and 26 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 12 February 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 19, 2-4, 6, 9, 10, 20, 21, 26 and 27 are objected to because of the following informalities:

In claim 19, second line from the bottom, "non-conducting" should read "non-conductive"; otherwise, there would be a lack of antecedent basis.

Claims 2-4, 6, 9, 10, 20, 21, 26, 27 are objected to because they depend from claim 19.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, claim 27 is replete with elements/terms lacking antecedent basis. The examiner interpret claim 27 as follows and any further rejection, or indication of the allowability, of claim 27 is based on the examiner's interpretation:

The method of claim 19, wherein the base electrode is formed by:

applying the first conductive layer on the substrate;

applying and patterning non-electrode material over the first conductive layer to form an etch mask;

etching the first conductive layer to form the base electrode under the non-electrode material;

applying the non-conductive layer over the non-electrode material and adjacent to the base electrode; and

removing the non-conductive layer over the non-electrode material and removing the non-electrode material, leaving the non-conductive layer adjacent to the base electrode.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baba et al. (6,475,317 B1; hereinafter, "**Baba**") in view of Stokes et al. (5,552,655; hereinafter, "**Stokes**").

*Regarding claim 25:*

Initially, note that a “product by process” claim is directed to the product per se, no matter how actually made. See *In re Thorpe et al.* 227 USPQ 964 (CFAC, 1985) and the related case law cited therein, which makes it clear that it is the final product per se which must be determined in a “product by process” claim, and not the patentability of the process, and that, as here, an old or obvious product by a new method is not patentable as a product, whether claimed in “product by process” claims or not. As stated in Thorpe, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972); *In re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); *Buono v. Yankee Maid Dress Corp.*, 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

Therefore, the process limitations added by the amendment (filed 17 December 2007) are not considered to have patentable weight because the instant claim is directed to a product.

Baba discloses a device structure suitable for a piezoelectric device comprising:  
a substrate 11 (Figs. 4A-4B);  
a base electrode 13 formed over the substrate, including an edge region having a first height relative to the substrate; and  
a second layer of material 17 positioned over the substrate with a portion positioned along the edge region of the base electrode, said portion having a height relative to the substrate so as to eliminate or substantially reduce a step along the base electrode edge region relative to the first height (Fig. 4B).

Baba **does not disclose** a second electrode and a piezoelectric film between the base electrode and the second electrode. However, it is noted that even though Baba does not provide details for forming a piezoelectric device, it is clear Baba's process is intended to be incorporated into the manufacture of piezoelectric devices (note Col. 1, lines 8-11); accordingly, one of ordinary skill in the art would have included any features known in the art when incorporating Baba's structure into a piezoelectric device.

Stokes is **cited to show** it was very well known in the art that a piezoelectric device comprises a bottom electrode 20 (Fig. 1) on a substrate 14; a second electrode 18; and a piezoelectric film 16 (Fig. 1) between the base electrode and the second electrode to enable application of an electric field to the piezoelectric film.

Given the Baba specifically discloses the structure is suitable for laminated piezoelectric members, it would have been obvious to one of ordinary skill in the art to combine the well-known elements of a piezoelectric device, shown by Stokes, with Baba's structure because the combination would provide a piezoelectric device that isn't affected by a step height of the bottom electrode.

#### *Allowable Subject Matter*

7. Claims 2-4, 6, 9, 10, 19-23, 26, 27(as interpreted) and 28-33 are allowable primarily because independent claims 19 and 22 have been amended to include subject matter that was deemed allowable in the prior Office action. However, note the objection to claim 19 (and all claims depending therefrom) and the rejection of claim 27 under 35 U.S.C. 112, second paragraph.

***Remarks***

8. Applicant's remarks/arguments have been fully considered. With respect to claim 25, the remarks/arguments are not persuasive primarily for the reasons stated hereinbefore. All other pending claims are allowed or would be allowable except for the outstanding objection to claim 19 and the rejection of claim 27.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lex Malsawma whose telephone number is 571-272-1903. The examiner can normally be reached on Mon. - Thur. (4-12 hours between 5:30AM and 10 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thao Le can be reached on 571-272-1708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lex Malsawma/  
Primary Examiner, Art Unit 2892